

ABSTRACT

[Abstract]

[Means to solve the problem]

An automatic introduction apparatus for automatically  
5 introducing a target celestial object by controlling a  
rotation of an astronomical telescope around at least two  
axes comprises: an image-capturing means capable of  
capturing an image of a celestial object at a plurality of  
focal distances; a celestial object database; an image  
10 processing section for extracting a set of information of  
each celestial object from the image of celestial object  
captured by the image-capturing means; and a celestial  
object identification means for identifying the celestial  
object whose image has been captured, by comparing the  
15 information of each celestial object extracted by the image  
processing sections with the celestial object information  
stored in the celestial object database. The alignment  
process is executed by defining a coordinate transformation  
information of a coordinate system in the astronomical  
20 telescope relative to a celestial coordinate system based  
on the position information of the identified celestial  
object. In the automatic introduction, after the  
introduction of the target celestial object, an image of  
celestial object is captured, the celestial object in the  
25 captured image of celestial object is identified, and the  
astronomical telescope is controlled by rotating it around  
two axes so that the target celestial object can be  
introduced into the center of field based on the position

information for the identified celestial object. The alignment precision and the automatic introduction precision can be improved by shifting the focal distance of the image-capturing means in a step-by-step manner toward  
5 the telescopic field side.